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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,979	04/17/2006	Werner Stamm	2003P14050WOUS	8721
22116 7590 11/25/2009 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830				
EXAMINER				
AUSTIN, AARON				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
11/25/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/575,979

**Applicant(s)**

STAMM, WERNER

**Examiner**

AARON S. AUSTIN

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-27 is/are pending in the application.  
4a) Of the above claim(s) 24-27 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14-23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 17 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/GS-08)  
Paper No(s)/Mail Date 9/23/09 4/17/06  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I, claims 14-23, in the reply filed on 8/24/09 is acknowledged. Claims 24-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract was submitted as the front page of WO 2005/042802 rather than on a separate sheet. Correction is required. See MPEP § 608.01(b).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 14-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,924,046 (Stamm) in view of Sommer et al. (US 6,280,857). Stamm teaches a McrAlY type coating composition having elements in the ranges claimed in the patent. The claims differ as set forth below.

Regarding claims 14-16 and 19-21, Stamm teaches a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above (see column 3, line 17 for interpretation of the claim language). However, Stamm does not explicitly teach a preferable amount of cobalt as presently claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt claimed by Stamm. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable.

Regarding claims 18, 19, and 23, Stamm does not claim 1) application of a thermal barrier coating to the protective MCrAlY type coating composition, or 2) application of the claimed composition to a nickel or cobalt based superalloy.

Sommer et al. teach a substantially similar MCrAlY type composition for application to nickel based turbine components. The coating are identified as being useful as bond coats for thermal barrier coatings for reduced spallation and increased thermal protection (column 8, lines 1-14). Therefore, as Sommer et al. clearly teaches MCrAlY type alloys are useful as bond coats for thermal barrier coatings for nickel based turbine engine components, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use the composition of Stamm as a bond coat for a thermal barrier coating to further protect the underlying nickel based turbine engine component.

***Claim Rejections - 35 USC § 102 and 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sommer et al. (US 6,280,857).

Sommer et al. teach a coating composition with oxidation resistance comprising 1-8% Re, 11-15% Cr, 18-28% Co, 11.5-14% Al, 0.3-1.3% Y, 0-0.5% La, and the balance nickel. Prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range does not substantially deviate from the claimed range. *Perricone v. Medicis Pharmaceutical Corp.*, 77 USPQ 1321, 1327 (Fed. Cir. 2005)(anticipation found even where prior art range was not identical to claimed ranges); see also MPEP 2131.03 and *Ex parte Lee*, 31 USPQ2d 1105 (Bd. Pat. App. & Inter. 1993).

Regarding claim 19, the coating may be applied to a nickel based substrate (column 5, line 36).

Claims 14-17 and 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Czech et al. (US 5,268,238).

Czech et al. teach a coating composition with corrosion and oxidation resistance comprising 1-20% Re, 15-50% Cr, 0-15% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt. Prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range does not substantially deviate from the claimed range. *Perricone v. Medicis Pharmaceutical Corp.*, 77 USPQ 1321, 1327 (Fed. Cir. 2005)(anticipation found even where prior art range was not identical to claimed ranges); see also MPEP 2131.03 and *Ex parte Lee*, 31 USPQ2d 1105 (Bd. Pat. App. & Inter. 1993).

Regarding the amount of cobalt claimed, Czech et al. do not explicitly specify a range for the cobalt in the taught composition. However, "a remainder primarily being at least one of the elements iron, nickel, and cobalt" provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Motivation to do so is provided by Czech et al. which recognizes that the amount of Co is a result effective variable whose properties are

directly related to corrosion resistance whereas the nickel provides ductility (column 2, lines 39-46).

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14-17 and 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Czech et al. (US 5,273,712).

Czech et al. teach a coating composition with corrosion and oxidation resistance comprising 1-20% Re, 15-50% Cr, 0-15% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt. Prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range does not substantially deviate from the claimed range. *Perricone v. Medicis Pharmaceutical Corp.*, 77 USPQ 1321, 1327 (Fed. Cir. 2005)(anticipation found even where prior art range was not identical to claimed ranges); see also MPEP 2131.03 and *Ex parte Lee*, 31 USPQ2d 1105 (Bd. Pat. App. & Inter. 1993).

Regarding the amount of cobalt claimed, Czech et al. do not explicitly specify a range for the cobalt in the taught composition. However, "a remainder primarily being at least one of the elements iron, nickel, and cobalt" provides one of ordinary skill in the art

a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Motivation to do so is provided by Czech et al. which recognizes that the amount of Co is a result effective variable whose properties are directly related to corrosion resistance whereas the nickel provides ductility (column 2, lines 39-46).

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stamm (WO 99/55527; please see corresponding US Patent No. 6,610,419 for an English translation).

Stamm teaches a coating composition with corrosion and oxidation resistance comprising 0-20% Re, 15-35% Cr, 7-18% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt. Prior art which teaches a range within,

overlapping, or touching the claimed range anticipates if the prior art range does not substantially deviate from the claimed range. *Perricone v. Medicis Pharmaceutical Corp.*, 77 USPQ 1321, 1327 (Fed. Cir. 2005)(anticipation found even where prior art range was not identical to claimed ranges); see also MPEP 2131.03 and *Ex parte Lee*, 31 USPQ2d 1105 (Bd. Pat. App. & Inter. 1993).

Regarding the amount of cobalt claimed, Stamm does not explicitly specify a range for the cobalt in the taught composition. However, "As the remainder the MCrAlY alloy contains one or more elements selected from the group consisting of iron, cobalt, and nickel, this being symbolically abbreviated by M" provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

Claims 14-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stamm (EP1306454; please see corresponding US Patent Application No. 2003/0207151 for an English translation).

Stamm teaches a coating composition with corrosion and oxidation resistance comprising 0.5-2% Re, 15-21% Cr, 9-11.5% Al, 0.05-.7% of at least one rare earth, and the balance of nickel and/or cobalt. Prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range does not substantially deviate from the claimed range. *Perricone v. Medicis Pharmaceutical Corp.*, 77 USPQ 1321, 1327 (Fed. Cir. 2005)(anticipation found even where prior art range was not identical to claimed ranges); see also MPEP 2131.03 and *Ex parte Lee*, 31 USPQ2d 1105 (Bd. Pat. App. & Inter. 1993).

Regarding the amount of cobalt claimed, Stamm does not explicitly specify a range for the cobalt in the taught composition. However, "a remainder being cobalt and/or nickel" provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 17 and 22, reduced Cr-Re precipitates are taught (English translation at paragraph [0014]). The volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

***Claim Rejections - 35 USC § 103***

Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czech et al. (US 5,268,238) in view of Sommer et al. (US 6,280,857).

Czech et al. teach a MCrAlY type coating composition for turbine components as set forth above.

Regarding claims 14-16 and 19-21, Czech et al. teach a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above. However, Czech et al. do not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use

18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Czech et al. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 18 and 23, Czech et al. do not teach application of a thermal barrier coating to the protective MCrAlY type coating composition.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating are identified as being useful as bond coats for thermal barrier coatings for reduced spallation and increased thermal protection (column 8, lines 1-14). Therefore, as Sommer et al. clearly teaches MCrAlY type alloys are useful as bond coats for thermal barrier coatings for turbine engine components, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use the composition of Czech et al. as a bond coat for a thermal barrier coating to further protect the underlying turbine engine component.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czech et al. (US 5,273,712) in view of Sommer et al. (US 6,280,857).

Czech et al. teach a MCrAlY type coating composition for turbine components as set forth above.

Regarding claims 14-16 and 19-21, Czech et al. teach a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above. However, Czech et al. do not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Czech et al. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 18 and 23, Czech et al. do not teach application of a thermal barrier coating to the protective MCrAlY type coating composition.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating are identified as being useful as bond coats for thermal barrier coatings for reduced spallation and increased thermal

protection (column 8, lines 1-14). Therefore, as Sommer et al. clearly teaches MCrAlY type alloys are useful as bond coats for thermal barrier coatings for turbine engine components, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use the composition of Czech et al. as a bond coat for a thermal barrier coating to further protect the underlying turbine engine component.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamm (WO 99/55527; please see corresponding US Patent No. 6,610,419 for an English translation) in view of Sommer et al. (US 6,280,857).

Stamm teaches a MCrAlY type coating composition for turbine components as set forth above.

Regarding claims 14-16 and 19-21, Stamm teaches a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above. However, Stamm does not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein

the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Stamm. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

Claims 14- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamm (EP1306454; please see corresponding US Patent Application No. 2003/0207151 for an English translation) in view of Sommer et al. (US 6,280,857).

Stamm teaches a MCrAlY type coating composition for turbine components as set forth above.

Regarding claims 14-16 and 19-21, Stamm teaches a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the

claims as set forth above. However, Stamm does not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Stamm. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 17 and 22, reduced Cr-Re precipitates are taught (English translation at paragraph [0014]). The volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON S. AUSTIN whose telephone number is

(571)272-8935. The examiner can normally be reached on Monday-Friday: 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron S Austin/  
Examiner, Art Unit 1794